

Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently Amended) A method for correlating services within a computer network, the
2 method comprising:

3 providing a message interchange network for exchanging application-level messages
4 between services, the message interchange network being built on an open platform
5 overlaying a public network and managing a plurality of services, ~~which are each of the~~
6 ~~services being~~ accessible by a plurality of services according to properties and permissions
7 associated with each service in the plurality of services; and

8 tracking correlation information regarding each application-level message received into
9 message interchange network, wherein the application-level messages are being sent between
10 pairs of the services, wherein the correlation information for each application-level message
11 pertains to each application-level message and any other application-level messages related to
12 the each application-level message, the correlation information including one or more of: a
13 Hop Identifier (ID) uniquely identifying a hop between a sender and receiver of the each
14 application-level message, call information regarding a call to which the each application-
15 level message and any other related application-level message belongs, and session
16 information regarding a session to which the each application-level message and any other
17 related application-level message belongs.

1 2. (Cancelled)

1 3 (Cancelled)

1 4. (Currently Amended) A method as recited in claim [[3]] 1, wherein the message
2 information for each application-level message further includes an identification of the each
3 application-level message's sending service and receiving service.

1 5. (Currently Amended) A method as recited in claim [[3]] 1, wherein the message
2 information for each application-level message further includes an indication as to whether the
3 each application-level message has completed transmission.

1 6. (Previously Presented) A method as recited in claim 5, wherein the message information
2 for each application-level message further includes a reason or error log regarding why the each
3 application-level message has failed to complete its transmission if the each application-level
4 message has failed.

1 7. (Currently Amended) A method as recited in claim [[3]] 1, wherein the message
2 information for each application-level message further includes a portion of the each message
3 content.

1 8. (Currently Amended) A method as recited in claim [[3]] 1, wherein the message
2 information for each application-level message further includes two or more of the following: an
3 identification of the each application-level message's sending and receiving service, an
4 indication as to whether the each application-level message has completed transmission, a reason
5 or error log regarding why the each application-level message has failed to complete its
6 transmission if the each application-level message has failed, and a portion of the each
7 application-level message content, a size of the each application-level message, a topic of the
8 each application-level message, a status on processing steps taken on the each application-level
9 message, and specification of any protocols used in receiving and sending the each application-
10 level message.

1 9. (Currently Amended) A method as recited in claim [[2]] 1, wherein the call information
2 for each call includes a Call Identifier (ID) uniquely identifying the each call.

1 10. (Original) A method as recited in claim 9, wherein the call information for each call
2 further includes two or more of the following: an indication as to whether the each call is
3 complete and a reason for the call not being complete if the each call fails to complete, a type of
4 each call, a receiving and sending time for the each call, a sender and recipient service of each
5 call, a status of policy evaluation for each call, and a set of hops in each call.

1 11. (Currently Amended) A method as recited in claim [[2]] 1, wherein the session
2 information for each session includes a Session Identifier (ID) uniquely identifying the each
3 session.

1 12. (Original) A method as recited in claim 11, wherein the session information for each
2 session further includes an indication as to whether the each session is complete and a reason for
3 the session not being complete if the each session fails to complete.

1 13. (Previously Presented) A method as recited in claim 11, wherein the session information
2 for each session further includes a calculated or executed route for application-level messages
3 sent within the each session.

1 14. (Original) A method as recited in claim 11, wherein the session information for each
2 session further includes an identity and status of each service of the each session.

1 15. (Original) A method as recited in claim 11, wherein the session information for each
2 session further includes two or more of the following: an indication as to whether the each
3 session is complete and a reason for the session not being complete if the each session fails to
4 complete, a calculated or executed route for messages sent within the each session, and an
5 identity and status of each service of the each session, an initiating time and completion time for
6 each session, and an indication of a set of calls in each session.

1 16. (Currently Amended) A method as recited in claim [[2]] 1, wherein each message
2 belongs to a particular call between two of the services.

1 17. (Currently Amended) A method as recited in claim [[2]] 1, wherein each call includes a
2 request message and a response message or a notification message.

1 18. (Currently Amended) A method as recited in claim [[2]] 1, wherein a call is defined as a
2 set of predefined application-level message types.

1 19. (Currently Amended) A method as recited in claim [[2]] 1, wherein a session is
2 determined by the services which send application-level messages for the set of calls as a set of
3 calls.

1 20. (Original) A method as recited in claim 1, wherein at least some of services are
2 implemented on different computer systems and at least some of these computer systems differ
3 from a computer system which implements the message interchange network.

1 21. (Currently Amended) A method as recited in claim [[2]] 1, wherein the tracking of
2 correlating information comprises:

3 receiving a current application-level message at the message interchange network,
4 wherein the current application-level message belongs to a current session and a current call;
5 when the received current application-level message is a first message received for the
6 current session, assigning a session identifier for the current message and embedding the session
7 identifier in the current application-level message prior to forwarding it the application-level
8 message to its destination service;

9 when the received current application-level message is a first message received for the
10 current call, assigning a call identifier for the current application-level message and embedding
11 the call identifier in the current application-level message prior to forwarding it the application-
12 level message to its destination service;

13 assigning a hop identifier for the current application-level message which uniquely
14 identifies the current application-level message; and

15 associating and storing the session identifier, the call identifier, and the hop identifier,
16 along with message information, call information, and session information for the received
17 application-level message.

1 22. (Currently Amended) A method as recited in claim [[2]] 1, further comprising:

2 receiving a query for correlation information regarding a particular session or call,
3 wherein the query is sent by a first one of the services; and

4 sending correlation information to the first service related to the particular session or call
5 of the query.

1 23. (Previously Presented) A method as recited in claim 22, wherein the correlation
2 information includes information regarding application-level messages sent between more than
3 two services.

1 24. (Original) A method as recited in claim 22, further comprising determining whether the
2 first service is authorized to make the query and only sending correlation information to the first
3 service when it is determined that the first service is authorized.

1 25. (Original) A method as recited in claim 1, wherein at least one of the services is a
2 routing script.

1 26. (Previously Presented) A method as recited in claim 1, wherein the correlation
2 information includes at least one message identifier specified in at least one of the application-
3 level messages which is sent by a sending service, the method further comprising:

4 receiving a query for correlation information regarding a particular message identifier,
5 wherein the query is sent by a first one of the services; and

6 sending correlation information to the first service related to the particular message
7 identifier of the query.

1 27. (Currently Amended) A computer system operable to correlate services within a
2 computer network the computer system comprising:

3 one or more processors;

4 one or more memory, wherein at least one of the processors and memory are adapted for:
5 providing a message interchange network for exchanging application-level
6 messages between services, the message interchange network being built on an open
7 platform overlaying a public network and managing a plurality of services, which are
8 each of the services being accessible by a plurality of services according to properties
9 and permissions associated with each service in the plurality of services; and

10 tracking correlation information regarding each application-level message
11 received into message interchange network, wherein the application-level messages are
12 being sent between pairs of the services, wherein the correlation information for each
13 application-level message pertains to each application-level message and any other
14 application-level messages related to the each application-level message, the correlation
15 information including one or more of: a Hop Identifier (ID) uniquely identifying a
16 hop between a sender and receiver of the each application-level message, call
17 information regarding a call to which the each application-level message and any
18 other related application-level message belongs, and session information regarding a

19 session to which the each application-level message and any other related
20 application-level message belongs.

1 28. (Cancelled)

1 29 (Cancelled)

1 30. (Currently Amended) A computer system as recited in claim [[29]] 27, wherein the
2 message information for each application-level message further includes two or more of the
3 following: an identification of the each application-level message's sending and receiving
4 service, an indication as to whether the each application-level message has completed
5 transmission, a reason or error log regarding why the each application-level message has failed
6 to complete its transmission if the each application-level message has failed, and a portion of the
7 each application-level message content, a size of the each application-level message, a topic of
8 the each application-level message, a status on processing steps taken on the each application-
9 level message, and specification of any protocols used in receiving and sending the each
10 application-level message.

1 31. (Currently Amended) A computer system as recited in claim [[28]] 27, wherein the call
2 information for each call includes a Call Identifier (ID) uniquely identifying the each call.

1 32. (Original) A computer system as recited in claim 31, wherein the call information for
2 each call further includes two or more of the following: an indication as to whether the each call
3 is complete and a reason for the call not being complete if the each call fails to complete, a type
4 of each call, a receiving and sending time for the each call, a sender and recipient service of each
5 call, a status of policy evaluation for each call, and a set of hops in each call.

1 33. (Currently Amended) A computer system as recited in claim [[28]] 27, wherein the
2 session information for each session includes a Session Identifier (ID) uniquely identifying the
3 each session.

1 34. (Original) A computer system as recited in claim 33, wherein the session information for
2 each session further includes two or more of the following: an indication as to whether the each
3 session is complete and a reason for the session not being complete if the each session fails to

4 complete, a calculated or executed route for messages sent within the each session, and an
5 identity and status of each service of the each session, an initiating time and completion time for
6 each session, and an indication of a set of calls in each session.

1 35. (Previously Presented) A computer system as recited in claim 31, wherein each call
2 includes a request message and a response message or a notification message.

1 36. (Currently Amended) A computer system as recited in claim [[28]] 27, wherein a call is
2 defined as a set of predefined application-level message types.

1 37. (Original) A computer system as recited in claim 36, wherein a session is determined by
2 the services which send application-level messages for the set of calls as a set of calls.

1 38. (Original) A computer system as recited in claim 27, wherein at least some of services
2 are implemented on difference computer systems and at least some of these computer systems
3 differ from a computer system which implements the message interchange network.

1 39. (Currently Amended) A computer system as recited in claim [[28]] 27, wherein the
2 tracking of correlating information comprises:

3 receiving a current application-level message at the message interchange network,
4 wherein the current application-level message belongs to a current session and a current call;
5 when the received current application-level message is a first message received for the
6 current session, assigning a session identifier for the current message and embedding the session
7 identifier in the current application-level message prior to forwarding it the application-level
8 message to its destination service;

9 when this the received current application-level message is a first message received for
10 the current call, assigning a call identifier for the current application-level message and
11 embedding the call identifier in the current application-level message prior to forwarding it the
12 application-level message to its destination service;

13 assigning a hop identifier for the current application-level message which uniquely
14 identifies the current application-level message; and

15 associating and storing the session identifier, the call identifier, and the hop identifier,
16 along with message information, call information, and session information for the received
17 application-level message.

1 40. (Currently Amended) A computer system as recited in claim [[28]] 27, wherein the at
2 least one of the processors and memory are further adapted for:

3 receiving a query for correlation information regarding a particular session or call,
4 wherein the query is sent by a first one of the services; and
5 sending correlation information to the first service related to the particular session or call
6 of the query.

1 41. (Currently Amended) A computer system as recited in claim [[26]] 27, wherein at least
2 one of the services is a routing script.

1 42. (Currently Amended) A computer program product for correlating services within a
2 computer network, the computer program product comprising:

3 at least one computer readable medium;
4 computer program instructions stored within the at least one computer readable medium
5 configured for:

6 providing a message interchange network for exchanging application-level
7 messages between services, the message interchange network being built on an open
8 platform overlaying a public network and managing a plurality of services, which are
9 each of the services being accessible by a plurality of services according to properties
10 and permissions associated with each service in the plurality of services; and

11 tracking correlation information regarding each application-level message
12 received into message interchange network, wherein the application-level messages are
13 being sent between pairs of the services, wherein the correlation information for each
14 application-level message pertains to each application-level message and any other
15 application-level messages related to the each application-level message, the correlation
16 information including one or more of: a Hop Identifier (ID) uniquely identifying a
17 hop between a sender and receiver of the each application-level message, call
18 information regarding a call to which the each application-level message and any
19 other related application-level message belongs, and session information regarding a
20 session to which the each application-level message and any other related
21 application-level message belongs.

1 43. (Cancelled)

1 44 (Cancelled)

1 45. (Currently Amended) A computer program product as recited in claim [[44]] 42, wherein
2 the message information for each application-level message further includes an identification of
3 the each application-level message's sending service and receiving service.

1 46. (Currently Amended) A computer program product as recited in claim [[44]] 42, wherein
2 the message information for each application-level message further includes an indication as to
3 whether the each application-level message has completed transmission.

1 47. (Previously Presented) A computer program product as recited in claim 46, wherein the
2 message information for each application-level message further includes a reason or error log
3 regarding why the each application-level message has failed to complete its transmission if the
4 each application-level message has failed.

1 48. (Currently Amended) A computer program product as recited in claim [[44]] 42, wherein
2 the message information for each application-level message further includes a portion of the each
3 message content.

1 49. (Currently Amended) A computer program product as recited in claim [[44]] 42, wherein
2 the message information for each application-level message further includes two or more of the
3 following: an identification of the each application-level message's sending and receiving
4 service, an indication as to whether the each application-level message has completed
5 transmission, a reason or error log regarding why the each application-level message has failed
6 to complete its transmission if the each application-level message has failed, and a portion of the
7 each application-level message content, a size of the each application-level message, a topic of
8 the each application-level message, a status on processing steps taken on the each application-
9 level message, and specification of any protocols used in receiving and sending the each
10 application-level message.

1 50. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 the call information for each call includes a Call Identifier (ID) uniquely identifying the each
3 call.

1 51. (Original) A computer program product as recited in claim 50, wherein the call
2 information for each call further includes two or more of the following: an indication as to
3 whether the each call is complete and a reason for the call not being complete if the each call
4 fails to complete, a type of each call, a receiving and sending time for the each call, a sender and
5 recipient service of each call, a status of policy evaluation for each call, and a set of hops in each
6 call.

1 52. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 the session information for each session includes a Session Identifier (ID) uniquely identifying
3 the each session.

1 53. (Original) A computer program product as recited in claim 52, wherein the session
2 information for each session further includes an indication as to whether the each session is
3 complete and a reason for the session not being complete if the each session fails to complete.

1 54. (Previously Presented) A computer program product as recited in claim 52, wherein the
2 session information for each session further includes a calculated or executed route for
3 application-level messages sent within the each session.

1 55. (Original) A computer program product as recited in claim 52, wherein the session
2 information for each session further includes an identity and status of each service of the each
3 session.

1 56. (Original) A computer program product as recited in claim 52, wherein the session
2 information for each session further includes two or more of the following: an indication as to
3 whether the each session is complete and a reason for the session not being complete if the each
4 session fails to complete, a calculated or executed route for messages sent within the each
5 session, and an identity and status of each service of the each session, a initiating time and
6 completion time for each session, an indication of a set of calls in each session.

1 57. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 each message belongs to a particular call between two of the services.

1 58. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 each call includes a request message and a response message or a notification message.

1 59. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 a call is defined as a set of predefined application-level message types.

1 60. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 a session is determined by the services which send application-level messages for the set of calls
3 as a set of calls.

1 61. (Original) A computer program product as recited in claim 42, wherein at least some of
2 services are implemented on difference computer systems and at least some of these computer
3 systems differ from a computer system which implements the message interchange network.

1 62. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 the tracking of correlating information comprises:

3 receiving a current application-level message at the message interchange network,
4 wherein the current application-level message belongs to a current session and a current call;
5 when the received current application-level message is a first message received for the
6 current session, assigning a session identifier for the current message and embedding the session
7 identifier in the current application-level message prior to forwarding it the application-level
8 message to its destination service;

9 when the received current application-level message is a first message received for the
10 current call, assigning a call identifier for the current application-level message and embedding
11 the call identifier in the current application-level message prior to forwarding it the application-
12 level message to its destination service;

13 assigning a hop identifier for the current application-level message which uniquely
14 identifies the current application-level message; and

15 associating and storing the session identifier, the call identifier, and the hop identifier,
16 along with message information, call information, and session information for the received
17 application-level message.

1 63. (Currently Amended) A computer program product as recited in claim [[43]] 42, wherein
2 the computer readable program product is further configured for:

3 receiving a query for correlation information regarding a particular session or call,
4 wherein the query is sent by a first one of the services; and
5 sending correlation information to the first service related to the particular session or call
6 of the query.

1 64. (Previously Presented) A computer program product as recited in claim 63, wherein the
2 correlation information includes information regarding application-level messages sent between
3 more than two services.

1 65. (Currently Amended) A computer program product as recited in claim 63, wherein the
2 computer ~~readable program~~ product is further configured for determining whether the first
3 service is authorized to make the query and only sending correlation information to the first
4 service when it is determined that the first service is authorized.

1 66. (Original) A computer program product as recited in claim 42, wherein at least one of
2 the services is a routing script.

1 67. (Previously Presented) A computer program product as recited in claim 42, wherein the
2 correlation information includes at least one message identifier specified in at least one of the
3 application-level messages which is sent by a sending service, the method further comprising:
4 receiving a query for correlation information regarding a particular message identifier,
5 wherein the query is sent by a first one of the services; and
6 sending correlation information to the first service related to the particular message
7 identifier of the query.